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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/665,680

09/19/2003

Kendra Gallup

10030768-1

6256

7590

04/07/2005

AGILENT TECHNOLOGIES, INC.

Legal Department, DL429

Intellectual Property Administration

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EXAMINER

CHIEM, DINH D

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

10/665,680

Applicant(s)

GALLUP ET AL.

Examiner

Erin D. Chiem

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 9/19/2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 6,8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/19/03</u> . | 6) <input type="checkbox"/> Other: _____                                                |

### DETAILED ACTION

This office action is in response to the application filed on September 19, 2003.

#### *Claim Objections*

1. Claims 6 and 8 are objected to because of the following informalities: The recitation "the die" lacks antecedent basis. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 6, 7, 10, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (US 5883988). Yamamoto et al. teach a photoreception device comprising a sub-mount containing conductive traces (Fig. 4A and 4B, 401) and an edge-emitting laser (col. 9, line 32-33) electrically coupled to the conductive traces (col. 31, line 36-38) and a reflector (col. 1, line 10-17 and col. 31, line 15-19) positioned to reflect an optical signal from the edge-emitting laser through the sub-mount and the inner wall of the cavity in a cap overlying the die (fig. 6, 10, 11, 19, 21, 24, 25; element 15). Furthermore, Yamamoto et al. teach hermetically seal the die in the cavity (col. 11, line 60-64). In teaching the apparatus drawn to claims 1-9, Yamamoto et al. also meet the process limitations drawn to claims 10-16.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in view of Bunin et al (US 5867620)

6. Yamamoto et al. teach a device comprising a sub-mount with an edge-emitting laser electrically coupled to the conductive traces and a reflector positioned to reflect an optical signal from the laser through the sub-mount. However, Yamamoto et al. do not teach an alignment post attached to the submount where the optical signal emerges from the sub-mount.

7. Bunin et al. teach aligning the optical fiber to transmit the signal in the desired path with alignment posts (Fig. 9, 88 and col. 5, line 63-67).

8. Since Bunin et al. and Yamamoto et al. are both from the same field of endeavor, the purpose disclosed by Bunin et al. would have been recognized in the pertinent art of Yamamoto et al.

9. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide an alignment method such as the alignment posts taught by Bunin et al. such that the invented optical device may allow light to be coupled into the device or perhaps made available for light to be coupled out such that the signal maybe transmitted out. Pre-installed alignment posts teach by Bunin et al. allow the optical device to easily align the

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optical signal being transmitted by the fiber into another device which have means to accept the alignment posts made with specific alignment parameters.

10. Claim 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. In a prior art disclosure, Fig. 1B, Yamamoto et al. teach having a lens etched in the sub-mount to be in the path of the optical signal to accumulate light in a narrower path and/or diffract unwanted wavelengths. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to etch a microlens into an optical semiconductor substrate, such as one taught by Yamamoto et al., such that one may control which electrons are excited to initiate the migration of the electrons to the holes, the basic building block of semiconductor technology functions (col. 2, line 43-53).

11. Claims 8, 9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in view of Ando et al. (US 2001/0023920 B2).

12. Yamamoto et al. teach a device comprising a sub-mount with an edge-emitting laser electrically coupled to the conductive traces and a reflector positioned to reflect an optical signal from the laser through the sub-mount. However, Yamamoto et al. do not expressly teach a transparent encapsulant attached to the sub-mount and wherein the encapsulant comprises silicone.

13. Ando et al. teach methods of manufacturing optoelectronic devices and specifically to protect the optoelectronic devices from the environment by making lids and/or caps out of a clear plastic resin and to further moisture proof the device, Ando et al. teach filling the space in which the lid and/or cap covers with a silicone gel [0010].

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14. Since Ando et al. and Yamamoto et al. are both from the same field of endeavor, the purpose disclosed by Ando et al. would have been recognized in the pertinent art of Yamamoto et al.

15. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to encapsulate the optoelectronic device on the substrate to keep moisture out. By using a clear plastic material and silicone gel as the encapsulant, the reflective loss can be reduced and employing clear plastic material for making a lid greatly reduce manufacturing costs.

16. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. and Mizutani et al. (US 5822352).

17. In teaching the apparatus, Yamamoto et al. also teach the process limitations of electrically connecting a laser to a sub-mount and attaching a reflector such that the optical signal is reflected through the sub-mount. However, Yamamoto et al. do not expressly teach electrically connecting the laser comprises connecting a plurality of lasers to a sub-mount wafer that includes the sub-mount and furthermore, cutting the sub-mount wafer to separate sub-mount from similar sub-mounts.

18. Mizutani et al. teach an optoelectronic apparatus having laser structures grown by a crystal growth on to the wafer (col. 13, line 53-55). And furthermore the crystal growth method teach by Mizutani et al. is also commonly used in the semiconductor art for cost effective method of forming transistors, in this case optoelectronic devices, all on the same wafer and further cut the separately grown components on the wafers into separate parts.

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19. Since Mizutani et al. and Yamamoto et al. are both from the same field of endeavor, the purpose disclosed by Mizutani et al. would have been recognized in the pertinent art of Yamamoto et al.

20. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to apply the method used to produce semiconductors, crystal growth on same wafer, for the making of an optoelectronic device since the material used are semiconductor material and have the same characteristics of semiconductor components. Such methods have been found to be cost effective for mass production.

### *Conclusion*

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Okada et al. teach a communication device having a cavity used to monitor the power of transmitted light formed on a singular substrate with reflective components.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

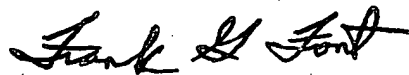
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erin D Chiem  
Examiner  
Art Unit 2883  
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